

Psychosocial and Sleep Parameters in Insomnia Identity and Uncoupled Sleep



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Background

- Insomnia identity: the notion that one has insomnia
 - *Regardless* of actual sleep parameters
- Insomnia identity is generally associated with mental health and daytime functioning outcomes regardless of sleep status (for a review, see Lichstein, 2017)

Current Study: Aims

1. Establish rate of sleep/complaints groups (including uncoupled sleepers) in current sample
2. Compare sleep/complaint groups on:
 - A. Objective/inferred/subjective sleep parameters (mean and intraindividual variability)
 - B. Psychosocial health (mental health symptoms, daytime functioning)

Method: Participants

- $N = 80$ community-dwelling adults
- M age = 32.7 ($SD = 10.1$)
- 63% female
- Race:
 - 85% non-Hispanic White
 - 4% Black
 - 5% Asian
 - 6% Biracial/other

Method: Sleep/Complaint Group (Aim 1)

- Insomnia complaint:
 - “I sleep poorly”
 - “Strongly agree” or “agree”
- Sleep status:
 - sleep diary $\geq 31m$ SOL or WASO, $\geq 3x$ /study week

Method: Sleep Measures (Aim 2A)

- **Single-channel EEG**
 - Zmachine Insight Plus
- **Actigraphy**
 - Actiwatch Spectrum
- **Daily sleep diary**
 - Electronic via REDCap; Consensus Sleep Diary (Carney et al., 2012)
- Outcomes (mean and intraindividual variability [RMSSD]):
 - Total Sleep Time
 - Sleep Efficiency
 - Circadian Midpoint

Method: Psychosocial Health Measures (Aim 2B)

Mental Health

- State-Trait Anxiety Inventory (STAI)
- Quick Inventory of Depressive Symptoms (QIDS)
- Perceived Stress Scale (PSS)

Daytime Functioning

- PROMIS Sleep Related Impairment (PROMIS-SRI)
- Multidimensional Fatigue Inventory – General Fatigue (MFI)

Results: Aim 1

		Insomnia Complaint	
		Present	Absent
Poor Sleep	Present	① complaining poor sleeper (CP) [insomnia]	② noncomplaining poor sleeper (NP)
	Absent	③ complaining good sleeper (CG)	④ noncomplaining good sleeper (NG) [normal sleep]

Figure from: Lichstein, K. L. (2017). Insomnia identity. *Behaviour Research and Therapy*, 97, 230-241.

Results: Aim 1

		Insomnia Complaint	
		Present	Absent
Poor Sleep	Present	① 9 (11%)	② 3 (4%)
	Absent	③ 29 (36%)	④ 38 (49%)

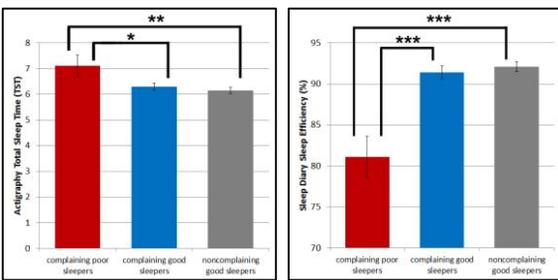
Figure adapted from: Lichstein, K. L. (2017). Insomnia identity. *Behaviour Research and Therapy*, 97, 230-241.

Results: Aim 1

		Insomnia Complaint	
		Present	Absent
Poor Sleep	Present	① 9 (11%)	② [REDACTED]
	Absent	③ 29 (36%)	④ 38 (49%)

Figure adapted from: Lichstein, K. L. (2017). Insomnia identity. *Behaviour Research and Therapy*, 97, 230-241.

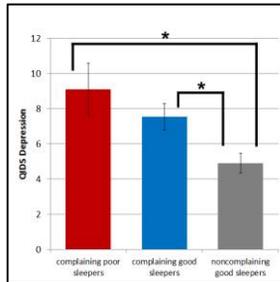
Results: Aim 2A: Sleep Parameter Means



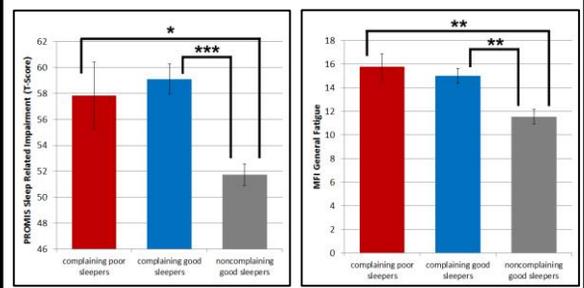
Results: Aim 2A: Sleep Parameter IIV

- No significant differences for IIV in total sleep time, sleep efficiency, circadian midpoint:
 - Actigraphy-derived
 - Diary-derived

Results: Aim 2B: Psychosocial Variables



Results: Aim 2B: Daytime Functioning Variables



Conclusions

- 40% of participants were uncoupled sleepers
 - Slightly higher than previous studies (e.g., ranging from 26 – 34%; Lichstein et al., 2003; McCrae et al., 2005; Molzof et al., 2018)
- About half were good sleepers (per 1 week diary)

Conclusions

- For sleep parameters, a few differences emerged:
 - Actigraphy: People with insomnia (PWI) had higher mean TST than all good sleepers
 - Sleep diary: PWI had lower mean SE than all good sleepers
 - Similar to findings from a previous study (Molzof et al., 2018)
- No differences in IIV

Conclusions

- Mental health symptoms
 - Both complaining good and poor sleepers had greater depression symptoms than noncomplaining good sleepers
 - Mental health tracked sleep complaint rather than sleep pattern (similar to Edinger et al., 2000)
- Daytime functioning
 - Both complaining good and poor sleepers endorsed worse daytime functioning than noncomplaining good sleepers

Limitations

- Small, healthy convenience sample limits generalizability/may suppress differences
- Did not rule out other sleep disorders (potential confounds)
- Unable to calculate IIV for EEG sleep parameters
- One week of sleep data (2+ weeks is recommended)
- Unable to examine noncomplaining poor sleepers

Future Directions

- Continue to explore objective sleep measures in relation to insomnia status (Mitchell et al., 2019; Dietch & Taylor, in press)
- Explore mechanisms of insomnia ID and uncoupled sleep (e.g., increased vulnerability to sleep loss, sleep-related beliefs?)
- Examine sleep status/complaints among shift workers
- Sleep-related self-stigma in related conditions (e.g., circadian rhythm sleep-wake disorders, shift work type, delayed phase)

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